Functional Heartburn: What It Is and How to Treat It

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KEYWORDS

• Heartburn • Esophagus • pH testing
• Functional esophageal disorder • Proton pump inhibitor

Functional gastrointestinal disorders can affect any level of the gastrointestinal tract, from the esophagus (eg, functional dysphagia and globus sensation) to the colon and rectum (eg, functional constipation and rectal pain). Patients with these disorders are frequently seen in primary care settings as well as in tertiary referral centers. In a United States householder survey for functional gastrointestinal disorders using the Rome I diagnostic criteria, the national prevalence for one or more functional gastrointestinal disorders was estimated to be as high as 70%.[1] Forty-two percent of the responders reported at least one symptom that was attributed to the esophagus. For comparison, a similar proportion of responders (44%) reported symptoms that were related to the large bowel.

The Rome II criteria,[2] formulated in 1999, were used in a Canadian householder survey. At least one functional gastrointestinal disorder was detected in 61.7% of the 1149 responders to a mailed questionnaire. Functional disorders of the bowel were the most prevalent, diagnosed in 41.6% of the responders, whereas functional esophageal disorders were diagnosed in 28.9%.[3] The most prevalent functional esophageal disorder, detected in 22.3% of the responders, was functional heartburn. Although the symptoms of functional gastrointestinal disorders in this population-based study were significantly more prevalent in female subjects, no gender predilection was demonstrated in esophageal-related functional symptoms.[3]

As a group, functional esophageal disorders are characterized by the presence of chronic symptoms attributed to the esophagus without evidence of structural or metabolic disorder. According to the Rome III criteria, patients should experience functional esophageal disorders for at least 3 months with symptom onset at least 6 months before diagnosis (**Box 1**).[4] Nonesophageal sources for symptoms should be excluded first before esophageal causes are entertained. Gastroesophageal reflux disease (GERD) and various esophageal motility disorders may be responsible

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Box 1
Functional Esophageal Disorders (Rome III)

- Functional heartburn
- Functional chest pain of presumed esophageal origin
- Functional dysphagia
- Globus

for the spectrum of functional esophageal-related symptoms. Hence, it is imperative that these conditions be ruled out before a diagnosis of a functional esophageal disorder is established. Rome III also removed rumination syndrome from the functional esophageal disorder group and added it to the functional gastroduodenal disorders. Although the Rome project attempts to repeatedly update the diagnostic criteria of the different functional bowel disorders, the relatively high frequency (approximately every 5 years) of the meetings that are commonly associated with changes in diagnostic criteria may render past and ongoing studies in this field obsolete.

Although benign in nature, functional gastrointestinal disorders cause considerable impairment in quality of life and result in a significant economic burden on the health care system.[5–8] Additionally, the obscure pathophysiologic basis of these conditions commonly results in frustration for both patients and physicians. Moreover, therapies are mainly empiric in nature and, in many cases, of limited value.

DEFINITION

Classic GERD symptoms (eg, heartburn and acid regurgitation) in the presence of a normal esophageal mucosa have been used to define nonerosive reflux disease (NERD).[9] Fass and colleagues[10] suggested an alternative definition offering a more pathophysiologic perspective; NERD is defined as classic GERD symptoms caused by gastroesophageal reflux in the absence of visible esophageal mucosal injury. This definition emphasizes the relationship between gastroesophageal reflux (acid and nonacid) and classic GERD symptoms regardless of whether the total time with pH less than 4 is abnormal or within the normal range. Additionally, it excludes those patients with heartburn from non–reflux-related stimuli (eg, motor event).

Early studies originating from tertiary referral centers suggested that approximately half of the patients presenting with typical reflux-related symptoms had erosive esophagitis on upper endoscopy. However, later studies that were performed in the community revealed that up to 70% of the GERD patients have NERD.[10]

Studies have demonstrated that patients with NERD are a heterogeneous group. Further subcategorization of NERD relies primarily on the results of 24-hour esophageal pH monitoring. Approximately half of the patients who fall under the category of NERD have normal esophageal acid exposure during 24-hour esophageal pH monitoring.[11] The Rome II Committee for Functional Esophageal Disorders considered these patients as having functional heartburn. The latter was defined as an episodic retrosternal burning in the absence of pathologic gastroesophageal reflux or pathology-based motility disorders.[4] Thus, according to Rome II criteria, patients with functional heartburn demonstrate normal esophageal mucosa on endoscopy as well as esophageal acid exposure within the normal range.[2] Furthermore, these patients were divided into 2 main groups: those who demonstrated a close relationship between their